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Entrepreneurial intention and resilience: An experiment during the Covid-19 lockdown

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Abstract

We study what profiles of individuals were the most likely to give up their entrepreneurial project at the beginning of the Covid-19 crisis. To do so, we run an experiment during the first lockdown in the United Kingdom. Our results show that the first months of the crisis have a sharp screening effect: 63% of prospective entrepreneurs postpone or cancel their project in May 2020. Taste for risk or competition does not characterize those who stick to their project. Instead, low opportunity costs to continue and concern for one's own interest instead of cooperation are common among entrepreneurs who persist.

JEL CLASSIFICATION
L26, D22, C90

1 | INTRODUCTION

Entrepreneurship and small businesses are driving forces in many economies (OECD, 2018). While some programs have been set up to help entrepreneurs through the recent Covid-19 crisis, less has been done for prospective entrepreneurs, that is, people who were about to launch a business before the crisis. The lack of data makes it difficult to evaluate the effect of the crisis on the intention to become an entrepreneur. In this paper, we analyze the screening effect of the crisis and explore the profiles of individuals who postponed or dropped their business project compared to those who continue. We seek to identify which factors influenced this decision to continue or to stop a business project, that is, what makes prospective entrepreneurs resilient when an economic crisis is looming.[1]

To address these issues, we ran an online experiment on 1173 UK residents during the first lockdown of the Covid-19 pandemic (May 2020). This represented a difficult and uncertain period where economic perspectives, and thus business projects, became significantly uncertain. At this time, China, which was the first country affected by the crisis in January 2020, had not yet recovered, and there was no proper medicine nor vaccines to fight the virus. All of this made the end of the crisis difficult to predict. We collected information on the socioeconomic characteristics of participants, their anticipation about the future, and used incentivized games to elicit their behavioral profiles. We explored both classical entrepreneurial dimension (as risk-taking and willingness to compete) and personal dimension (selfishness and altruism). We compared the characteristics of the prospective entrepreneurs who gave up their project with those who decided to maintain it despite the economic difficulties caused by the Covid-19 crisis. Our focus was on small entrepreneurial projects[2] as they represent a driving force of the economy of the United Kingdom. By the fourth quarter of 2019, that is, just before the pandemic, more than 5 million citizens were indeed self-employed[3] in the United Kingdom. Self-employment has strongly contributed to employment growth in the labor market over the past few years, with self-employed people representing 15.3% of employment (vs. 12% in 2000). Official statistics also show that there were 5.9 million private businesses in the United Kingdom at the start of 2019 and most of UK businesses (76%) are single-person enterprises with no employees.[4] This emphasizes how fundamental small businesses are for the British economy.

Beyond the UK example, SMEs account for 60% of total employment and 50%–60% in value added across OECD countries.[5] In June 2022, several recommendations on SME and entrepreneurship policy were adopted by the OECD council at the ministerial level, among which facilitating the transition and resilience of SMEs, with a specific focus on "reducing barriers to entry and exit, and easing possibilities to re-start for entrepreneurs who fail."[6] This calls for a better

understanding of the incentives and disincentives to launch small businesses and of entrepreneurial resilience at the start of a crisis.

Since the very beginning of the Covid-19 crisis, small firms have also been hit especially hard given their relative lack of financial and human resources (Cowling et al., 2020; Eggers, 2010). According to Fairlie (2020), three times as many SMEs exited the market in 2020 versus during the Great Recession. Levels of confidence of many entrepreneurs were also strongly impacted during the crisis (Soomro et al., 2021). These difficulties have also impacted effective business creations (Vazirani & Bhattacharjee, 2021) and the intention to launch small businesses. In addition, the Covid-19 crisis represents an interesting period to study the profiles of people who give up an entrepreneurial project, as it was a sudden and sharp unexpected shock for the UK economy. The British GDP is estimated to have fallen by a record 20.4% in the second quarter of 2020. There were record quarterly falls in services, production, and construction output in the second quarter, and these were particularly large in the industries that were the most exposed to government restrictions. Private consumption accounted for more than 70% of the fall in the expenditure measure of GDP, falling by 23.1%. There were also notable falls in gross capital formation and government consumption.[7] Our experiment took place in this context from May 11–13 2020. Subjects were recruited on the online platform Prolific to answer a questionnaire about their views regarding the future economic environment. Participants also took part in economic games to elicit their preferences for risk aversion, their taste for competition, their cooperation attitudes, and their level of altruism. Our results first show that prospective entrepreneurs were a heterogeneous population before the Covid-19 crisis. Some entrepreneurs (males, people living in urban areas or coming from the for-profit sector) were more likely to take risky and selfish decisions, while people from rural areas or having previous entrepreneurial experiences behaved more as "naïve" prospective entrepreneurs in terms of having high levels of trust toward others, and showing altruistic and cooperative preferences.

People who decided to stop or postpone their entrepreneurial project in May 2020 were often older than those who continued and more frequently worked in the for-profit sector. In other words, people for which the entrepreneurial adventure was the most costly (because of family concerns or because they already had a job in the for-profit sector) were more likely to decide to stop than those for which there was less to loose (unemployed people and younger participants). In addition, what characterized prospective entrepreneurs who continued their business project during the crisis was their self-interest in strategic interactions. Instead, people who stopped their business project had a stronger taste for cooperation. They were also more pessimistic about the future economic environment.

Our paper contributes to the literature on entrepreneurship. Following Parker (2018), three branches of economic theories of entrepreneurship can be distinguished:

(i) theories of occupational choice dealing with the questions of who becomes an entrepreneur and why;
(ii) microeconomic theories of innovation focusing on entrepreneurs who are likely to enter markets with disruptive innovations;
(iii) macroeconomic theories assigning a central role to entrepreneurs in driving macroeconomic growth and business cycle fluctuations.

Our paper is related to the first branch of this literature. More precisely, our paper compares the classical economic theories of entrepreneurship depicting entrepreneurs as extra "economic agents" characterized by a strong taste for risk and competition of entrepreneurs (Knight, 1921; Schumpeter, 1934) to the more modern economic theories of entrepreneurship. These theories (Kihlstrom & Laffont, 1979; Lucas, 1978) consider that professional activities result from an individual trade-off between entrepreneurship and wage-earning. In addition, entrepreneurs do not always generate positive externalities on society: they may prefer to maximize their own profits at the expense of the others (Baumol, 1990, 1993). To test these two visions of entrepreneurship, we also draw on the recent managerial, behavioral, and economic literature focusing on personality traits of entrepreneurs (Andersen et al., 2014; Caliendo et al., 2021; Hamböck et al., 2017; Holm & Opper, 2013; Koudstaal et al., 2016; Rauch & Frese, 2007; Zhao et al., 2010). Like these papers, we rely on behavioral games to elicit the preferences of entrepreneurs. But our originality is to focus on prospective entrepreneurs in the early stage of a crisis to determine what makes them resilient at this stage.[8] Our results give some empirical support to the literature on talent allocation (Acemoglu, 1995; Baumol, 1990; Murphy et al., 1991), which assumes that entrepreneurs have self-oriented preferences. Finally, our paper is also related to the literature on resilience in entrepreneurship, showing that resilience may be different across sectors (Davidsson & Gordon, 2016), environment (Branzei & Fathallah, 2021; Bullough et al., 2014), individual values, and experienced level of adversity (Anwar et al., 2021; Holland & Shepherd, 2013).

The remainder of the paper is organized as follows: Section 2 exposes our theoretical framework and hypotheses. Our experimental design is described in Section 3, and our main results can be found in Section 4. Section 5 concludes.

2 | THEORIES AND HYPOTHESES

Focusing on small businesses, we study whether the decision to abandon or continue an entrepreneurial project at the beginning of a crisis is related to some specific behavioral traits.

Inspired by economic theories of entrepreneurship, we consider both classical entrepreneurial dimensions (risk-taking and willingness to compete) and personality dimensions (ability to cooperate and altruism) of prospective entrepreneurs coming from more recent works. Indeed, among the early economic theories on entrepreneurship (Cantilln, 1755; Knight, 1921; Schumpeter, 1934), the risk-bearing role of entrepreneurs has been largely emphasized, as well as the taste for competition: entrepreneurs are regarded as specific

economic agents. In contrast, modern theories of entrepreneurship (Kihlstrom & Laffont, 1979; Lucas, 1978) focus on heterogenous abilities or attributes of individuals that have to make a choice between entrepreneurship or alternative occupations, such as paid employment. Part of this modern theoretical literature has also proposed a new vision of entrepreneurship: following William Baumol's (1990, 1993), entrepreneurs' activities can either be socially productive or socially unproductive or even destructive by generating profit at the expense of others. This has questioned the personality traits of entrepreneurs who can maximize their own profits even if the activity generates negative externalities for others. The theoretical literature on entrepreneurship then conveys two different views of entrepreneurs: they are "heroes" bearing risk and facing competition on one side and "profit-maximizing" people on the other side, looking for their own profits even at the expense of others. Our experiment then challenges these two opposite visions of entrepreneurs inherited from the theoretical economic literature. In addition, following a more recent managerial literature, we also admit that prospective entrepreneurs and their decision to continue or stop their entrepreneurial project can be different according to their socioeconomic environment. We detail below the different dimensions we test. The theories and hypothesis are summarized in Figure 1.

2.1 | Classical entrepreneurial dimensions

2.1.1 | Risk-taking

Discussions of risk and entrepreneurship date back to Knight (1921), who proposes that entrepreneurs are differentiated from others by their astuteness toward perceiving and acting on opportunity despite uncertainty and risk. This is consistent with the general view whereby entrepreneurs—as business-owning residual claimants—would be more risk prone than other people. However, this vision has been challenged by modern theories of entrepreneurship. According to Kihlstrom and Laffont (1979), entrepreneurs are not risk takers, they are simply the least risk adverse. For Parker (1997), entrepreneurs respond to higher risk with higher time spent on work, leading to a positive correlation between risk aversion and successful entrepreneurship. In addition, a large literature in management, psychology, or economics has tried to identify whether entrepreneurs show different attitudes toward risk than the rest of the population and results do not provide conclusive support for this claim (Andersen et al., 2014; Caliendo et al., 2010; Holm & Opper, 2013; Kerr et al., 2018; Koudstaal et al., 2016). Following the previous literature, we assume that risk-taking does not allow to characterize entrepreneurs compared to the rest of the population, and has then no role in the willingness to continue a business project.

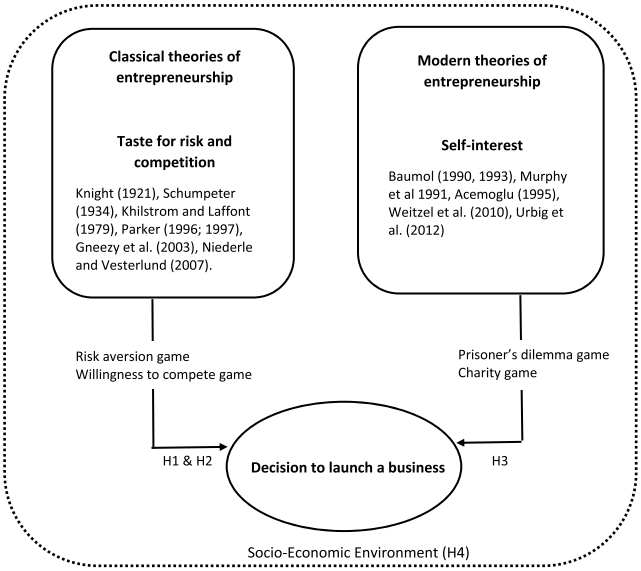

FIGURE 1 Conceptual model of our study

> **H1.** Prospective entrepreneurs continuing or stopping their project do not differ regarding risk taking.

2.1.2 | Willingness to compete

In spite of their differences on the economic function of entrepreneurs, both Kirzner and Schumpeter suggest that individuals who embrace competition might be those who are attracted to entrepreneurship (Urbig et al., 2020). More precisely, Joseph A. Schumpeter describes entrepreneurs as being driven by "the will to conquer; the impulse to fight, to prove oneself superior to others" (Schumpeter, 1934, p. 93). More recent contributions have emphasized that competitive behavior in economic experiments is linked to selection into more competitive careers, such as managerial positions (Gneezy et al., 2003; Niederle & Vesterlund, 2007).[9]

> **H2.** Among prospective entrepreneurs, people having a higher willingness to compete than others should persist more in their entrepreneurial project.

2.2 | Entrepreneurs as self-interested people

In his seminal paper, Baumol (1990) notes that entrepreneurs act in ingenious and creative ways to increase their wealth, power, and prestige and not always with consideration of the effects their activities have on others and/or the economy as a whole. More generally, recent works in economics argue that entrepreneurial talent is allocated to activities "with the highest private returns, which need not have the highest social returns" (Murphy et al., 1991, p. 506). Contrary to the traditional literature initiated by Schumpeter, entrepreneurship is no longer perceived as the driving force of economic development which benefits to the whole society. Instead, this literature conveys the view that entrepreneurial talent is not altruistic but selfish and cares more about their individual interests than the social interest (Acemoglu, 1995). Some empirical evidence supports this view: Weitzel et al. (2010) find that believing to be better than others in doing business is negatively associated with benevolence. Urbig et al. (2012) find that participants who perceive themselves as being

good in doing business invest more in destructive opportunities (but also more in neutral and in productive opportunities). Last, benevolence is a personality trait that has drawn less attention in the literature on personal traits in entrepreneurship, while it has emerged as a sixth important trait next to the "Big Five" (Ashton & Lee, 2007; Hilbig & Zettler, 2009). To investigate this dimension in entrepreneurship intention and realization, we introduce the following hypothesis:

> **H3.** Prospective entrepreneurs continuing their project in spite of economic crisis should be more selfish and less altruistic than others.

2.3 | Socioeconomic environment

The recent managerial literature on entrepreneurship also stresses the role of the socioeconomic environment on starting a new firm. First, family background (Burke et al., 2008; Lindquist et al., 2015) and education (Caliendo et al., 2021; Djankov et al., 2010) are identified as important factor to explain firm formation. The geographical environment also matters: local industrial restructuring, agglomeration economies, and availability of resources at the local level (Armington & Acs, 2002; Wenting & Frenken, 2011) impact the decision to start a business. Another part of the literature has shown that men and women have different behavior in entrepreneurship (Acs et al., 2011). Following these previous results, we then have an interest in all socioeconomic characteristics that could influence the decision of prospective entrepreneurs to continue or stop a business. Combining behavioral perspective and socioeconomic determinants, we also assume that prospective entrepreneurs may have different behavior in different environment and their decision to stop or continue a business project can also be influenced by this socioeconomic environment. This leads us to the following hypothesis:

> **H4.** Behavioral characteristics of prospective entrepreneurs pursuing or stopping their project differ according to their sector, geographical location, and gender.

In the following section, we describe the design of the experiment. Based on the theories of entrepreneurship, our goal is to collect information on the socioeconomic characteristics of the participants, their position regarding entrepreneurship, their taste for risk and competition, their ability to maximize their own gains at the expense of the general surplus, and their degree of altruism. Figure 1 represents how our experimental design, described in the next section, is related to the theory presented in this section.

3 | DESIGN OF THE EXPERIMENT

Our experiment consists of two parts. In one part, participants answer a survey on their socioeconomic characteristics and some questions on their expectation about the economic environment in the United Kingdom. In the other part, participants face four incentivized games that aim to elicit their behavioral traits. These two parts appear in a random order for each participant such that half of them answer the survey first, while the remaining participants play the games first. The randomization allows us to control for a potential order effect or cross-contamination. Participants are incentivized by being payed in real money. To avoid cross-contamination, only one of the games is randomly drawn after the experience is closed, and each participant is paid accordingly. In the remainder of this section, we describe the survey and the four incentivized games of the experiment (lottery game, competition game, prisoner's dilemma, and charity donation) that allow us to test our hypotheses derived from the theories of entrepreneurship described in Section 2.

3.1 | Survey on business intention and economic situation

In the survey, we ask participants questions regarding their professional activity. We ask whether they were running their own business in January 2020 (i.e., before the Covid outbreak), or, if not, whether they were planning at this date to open a business. Then, we investigate several dimensions of the business project (level of development, business area, and funding). We explore whether participants with a business project changed their business plan between January 2020 and the survey that took place in May 2020 (cancelation, postponement, and activity change) and whether the change was due to the Covid pandemic. Then, we ask several questions to capture the participants' expectations regarding the economic activity in the near future (the damage to the economic environment, the difficulty to finance new business projects, the evolution of consumption, the job market prospects, and the evolution of taxes). Last, we ask some questions about the professional qualification, the experience with business, the activity sectors, and their geographical location.

3.2 | Risk aversion

The first incentivized game consists of a multiple price list format to elicit risk aversion (see Table 1), which has become one of the standard designs in experimental studies since Holt and Laury (2002). We use two different lists, one with a certain fixed outcome (option A) and one with a lottery (option B) (Dohmen et al., 2010; Koudstaal et al., 2016). The lottery option always allows the respondent to win 120 pence with probability 50% and 0% otherwise. Option A is a fixed outcome that changes over the lines to become more and more attractive. Risk-loving participants are expected to prefer the lottery in option B over the fixed payments in option A for lower fixed payments compared to risk-averse participants.

3.3 | Willingness to compete

To assess preferences for competition, we build on Holm and Opper (2013) and let subjects choose their reward system for a series of

TABLE 1 Risk aversion game

Decision	Option A	Option B
1	Get 10 pence for sure	1 in 2 chance to get 120 pence, otherwise 0 pence
2	Get 20 pence for sure	1 in 2 chance to get 120 pence, otherwise 0 pence
...	...	...
10	Get 100 pence for sure	1 in 2 chance to get 120 pence, otherwise 0 pence

TABLE 2 Willingness to compete

Decision	Option A Fixed reward earned per correct answer	Option B (competitive rewards) Amount earned per correct answer if (more//fewer) points than the competitor
1	30 pence	30 pence // 3 pence
2	27 pence	30 pence // 3 pence
...	...	...
10	3 pence	30 pence // 3 pence

(unknown) questions they will have to answer. Participants are told that they will be matched with another participant in the experiment[10] and that the payment scheme may depend on their relative performance. Participants are free to choose between two reward systems: in the first system, participants receive a fixed reward per correct answer; in the second system, the reward per correct answer depends on their relative performance with respect to the other participant (30 pence per correct answer if the participant has more correct answers than the competitor, 3 pence per correct answer otherwise). Table 2 summarizes the list of choices for the payment scheme. Once the participant has made his/her choices, the game is played. This game, unknown to the participants, consists of a series of mental math calculations to solve in 45 s. After the experiment, a random row is chosen, and the participant is paid according to his/her choice for this row.

3.4 | Cooperation

To test the concern for one's own interest at the expense of others, we introduce a prisoner's dilemma game (see Table 3). Participants are told to play the role of player A and to choose between two actions (X or Y). They know that another individual (randomly chosen from a representative sample of the UK population) will play the role of player B. Both players choose their action simultaneously (i.e., they do not know the choice of the other player). The table of payoffs is common knowledge.

Note that this game allows to test the ability to cooperate but also some attitude to "rational" self-interested choice as "defection" allows to maximize one's own monetary gain rather than making a choice to maximize the "collective" total surplus.

Participants are then asked to determine how many participants (out of 100 randomly chosen from a representative sample of the UK population) decided to undertake action X. If their answer is correct or located in a ±10 interval around the correct answer, they get 50 pence. Last, participants are asked to report again their choice between action X and Y as an attention check.

TABLE 3 Cooperation game

	B plays X	B plays Y
A plays X	A gets 50 pence, B gets 50 pence	A gets 200 pence, B gets 25 pence
A plays Y	A gets 25 pence, B gets 200 pence	A gets 125 pence, B gets 125 pence

3.5 | Altruism: Charity-giving game

Last, we elicit the level of altruism using a charity donation game (Luccasen et al., 2017). While the prisoner's dilemma accounts for the tension between one's own profit and the collective surplus in a strategic interaction, the charity game measures the generosity and prosocial behavior of participants. Donations are associated with generosity toward others but also a self-satisfaction in helping others, which is not present in the strategic interaction of the prisoner's dilemma.

In the charity game, each agent starts this game with 150 pence and has the possibility to donate all of it, parts of it, or none of it to the Red Cross. The money that he/she decides to donate is given anonymously at the end of the experiment if this stage is selected to be implemented.

4 | RESULTS

We first present some descriptive statistics on the participants (Section 4.1) and on the choices they make (Section 4.2). Before investigating what characterizes resilient prospective entrepreneurs, we first explore who these prospective entrepreneurs were before the crisis starts, and in particular, to what extent they differ from the other participants (Section 4.3). Then, we analyze whether they are an homogenous population or not, regarding their socioeconomic and behavioral characteristics (Section 4.4). Last, we focus on participants who postpone or cancel their entrepreneurial project in comparison to those who continue through the crisis (Section 4.5).

4.1 | Sample

The experiment was conducted online between May 11 and 13, 2020, that is, in a context of strong economic uncertainty (as recalled in Section 1). It was therefore considered an appropriate period to test how entrepreneurs react to an economic crisis. We use subjects from Prolific, a platform allowing researchers to conduct online surveys, games or studies. Our experiment took on average

8 minutes to complete. All participants were paid a fixed show-up fee and a variable fee depending on the answers and actions in the different games. The average gain was 2.62 pounds.[11]

First, we invited 500 persons from a representative sample of the UK population. Second, we further invited 302 Prolific users who reported that they were running their own business when they registered on Prolific. Similarly, we added 300 users who declared that they intended to run a business in the future when they joined the platform. Last, we invited 100 further participants asking for people who had a business project in January 2020. This allows us to have a sufficiently large sample that includes an important number of participants with a business project in January 2020. A total of 1202 participants participated in our experiment. However, we removed the data for 29 participants who failed at the two attention checks in our experiment. The final sample contains 1173 participants and three types of participants can be distinguished: 27% of them ran their own business in January 2020; 15% are prospective entrepreneurs: they declared that they planned in January 2020 to open their own business; and the remaining participants (58%) did not run their own business in January 2020 nor did they plan to open one in the near future. Among the 177 participants who declared to have a business project in January 2020, 132 were relatively advanced in their business project.[12]

Based on the questionnaire filled out by participants, we collect data on their personal and professional situation. Our main variables and descriptive statistics are described in Table 4. Participants are on average 39 years old and 56.6% are women. They have different professional situations, as 39.6% currently work in the for-profit sector, 26.3% in the public sector, 5.7% in the non-for-profit sector, and 25.1% are unemployed. Heterogeneity is also observed regarding the

TABLE 4 Descriptive statistics

Variable	Meaning	*N*	Mean	St.D.	Min	Max
No Business	The participant does not run any business in January 2020 and does not plan to open one	1173	0.577	0.494	0	1
Running a Business	The participant runs a business in January 2020	1173	0.272	0.445	0	1
Plan Business	The participant does not run a business in January 2020 but plans to open one in the near future	1173	0.151	0.358	0	1
Project	Among participants who do not currently run a business, the participant plans to open a business in the near future	854	0.207	0.406	0	1
Project_av	The project of the participant is beyond "the simple idea"	177	0.746	0.436	0	1
Project_stop	The participant with a business project in January 2020 has changed his/her plan in May	177	0.633	0.483	0	1
Covid	The project of the participant is canceled or postponed because of the pandemic	177	0.542	0.499	0	1
Age	Age of the participant	1169	39.06	14.18	18	80
Women	The participant is a woman	1171	0.566	0.496	0	1
Forprofit	The participant currently works in the for-profit sector	1173	0.396	0.489	0	1
Public	The participant currently works in the public sector	1173	0.263	0.440	0	1
Non Profit	The participant currently works in the non-for-profit sector	1173	0.057	0.232	0	1
Unemployed	The participant is currently not working	1173	0.251	0.433	0	1
Relatives	The participant has close relatives who run their own business	1173	0.385	0.487	0	1
Previous experience	The participant has a previous experience of running a business	1173	0.364	0.481	0	1
Business	The project of the participant is in the business administration sector	177	0.079	0.27	0	1
Craft	The project of the participant is in the craft sector	177	0.192	0.395	0	1
Technology	The project of the participant is in the technology and digital sector	177	0.169	0.376	0	1
Service	The project of the participant is in the service sector	177	0.412	0.49	0	1
Food	The project of the participant is in the food services or food industry	177	0.101	0.30	0	1
Others	The project of the participant belongs neither to services, food industry, technology, craft nor business administration	177	0.045	0.208	0	1
Rural	The participant lives in a rural area	1173	0.21	0.407	0	1
Small	The participant lives in a small urban area (<100,000 inhabitants)	1173	0.287	0.452	0	1

TABLE 4 (Continued)

Variable	Meaning	N	Mean	St.D.	Min	Max
Medium	The participant lives in a medium-sized urban are (100–500,000 inhabitants)	1173	0.273	0.445	0	1
LargeCities	The participant lives in a large urban area (>500,000 inhabitants)	1173	0.23	0.421	0	1
Noeducation	The participant has no school degree	1173	0.039	0.194	0	1
Techeducation	The participant has a trade/technical/vocational training	1173	0.133	0.339	0	1
HSeducation	The participant has a high school graduate or equiv.	1173	0.166	0.372	0	1
College	The participant has college credit, no diploma	1173	0.139	0.347	0	1
b-education	The participant has a bachelor degree or an associate degree	1173	0.387	0.487	0	1
Topeducation	The participant has a master degree or a doctorate	1173	0.135	0.341	0	1

TABLE 5 Descriptive statistics—Choices

Variable	Meaning	N	Mean	St.D.	Min	Max
Risky Choices	Number of times the risky option is chosen in the Risk-Aversion Game	1173	4.787	2.313	0	10
Competition Choices	Number of times the competition option is chosen in the Willingness-to-Compete Game	1173	4.938	2.480	0	10
Defect PD	The participant does not cooperate in the Prisoner's-Dilemma game	1173	0.615	0.487	0	1
Guess PD	The participant anticipates that the other play does not cooperate in the Prisoner's-Dilemma game	1162	55.32	22.746	0	100
Charity Donation	The amount of money the participant gives to the charity	1173	58.135	55.109	0	150

living areas: 21% come from rural areas, 28.7% live in small urban areas (<100,000 inhabitants), 27.3% in medium-sized urban areas (100–500,000 inhabitants), and 23% are in large urban areas (>500,000 inhabitants). While 18% of the participants have no school degree, two thirds (66.1%) have a higher education level than high school.

Among the 177 participants having a business project in January 2020, 39.5% plan to work in services (e.g., personal services, event planning, sales, retail, and cleaning). Almost 17% choose the technology or digital sector, and 19% choose crafts (e.g., homemade products, jewelery, clothing, and carpentry). Lastly, 9% of participants want to work in business services (e.g., accounting, financial services and marketing), and 10.7% in businesses related to food (e.g., restaurants and bakeries). Regarding their future, 63.3% of participants with a business project in January 2020 claim (in May 2020) that they plan to postpone or cancel it.

4.2 | Descriptive statistics: Choices and perceptions

We now describe the choices and perceptions of participants. Table 5 shows that participants on average chose 4.87 times (over 10) the risky option in the risk aversion game. A similar score is observed in the competition game, as participants have chosen 4.94 times the competitive option (instead of the fixed reward).[13] Regarding the ability to cooperate, 61.5% of participants do not cooperate in the prisoner's dilemma game, and 55.32% of them anticipate that the other players does not cooperate as well. Last, participants give on average 58.135 pence (over 150) to a charity, that is, around 38.7% of the fee they receive at the beginning of the charity game. There is however a large standard deviation observed on this amount.

We also compare participants in terms of their beliefs about the economic environment. Figure 2 displays the average economic views of the participants in the sample. On overall, participants believe that the Covid-19 pandemic will severely damage the economy (with an average score of 7.72 over 10). They expect that this will make access to finance a bit more difficult and that the general consumption level is likely to decrease: the average scores on these questions are respectively 4.15 and 4.34 on a [0–10] scale. The standard deviation on the beliefs regarding the access to finance is the largest among the different questions. They also think that taxes will increase (with an average score of 3.19 over 10). Their worst expectation is about the ability to find a job in the next 12 months: the average score is 2.78 over 10.

We aggregate the economic views by running a principal component analysis on the five variables. The first dimension, which explains 35% of the variations (eigenvalue: 1.76), is negatively correlated with the first variable (impact on the economy) and positively with the other dimensions. Altogether, participants who have a high score on

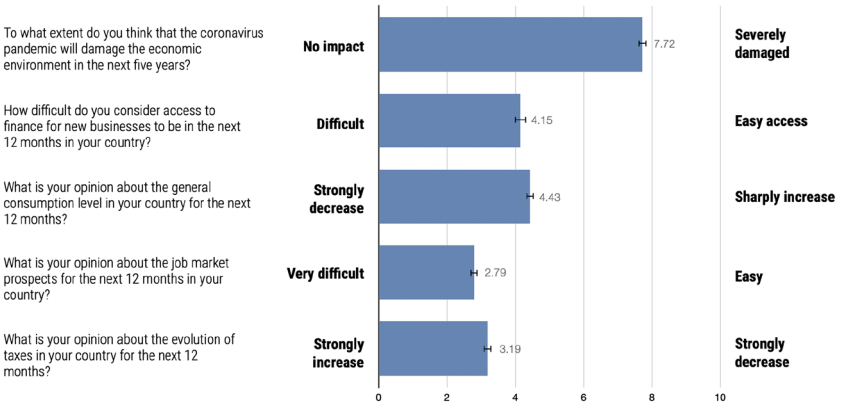

FIGURE 2 Economic views of the participants in the experiment ($N = 1173$)

TABLE 6 Comparison of participants with and without a business project

	Project Mean/(SD)	No Business Mean/ (SD)	*p* value		Project Mean/(SD)	No Business Mean/ (SD)	*p* value
Age	32.94	39.46	<.001	Public	0.339	0.272	.078
	(10.86)	(15.39)			(0.035)	(0.017)	
Women	0.542	0.539	.93	Unemployed	0.282	0.303	.599
	(0.376)	(0.19)			(0.033)	(0.017)	
Experience	0. 282	0.165	.0004	Noeducation	0.045	0.0428	.89
	(0.338)	(0.143)			(0.156)	(0.007)	
Rural	0.169	0.199	.37	Techeducation	0.113	0.128	.578
	(0.282)	(0.153)			(0.023)	(0.128)	
Small	0.243	0.288	.234	HSeducation	0.129	0.202	.027
	(0.322)	(0.174)			(0.025)	(0.015)	
Medium	0.293	0.276	.643	College	0.18	0.134	.118
	(0.456)	(0.447)			(0.289)	(0.131)	
Large cities	0.293	0.236	.115	b-education	0.378	0.366	.76
	(0.342)	(0.163)			(0.364)	(0.018)	
For profit	0.316	0.316	.994	Topeducation	0.152	0.125	.344
	(0.349)	(0.178)			(0.27)	(0,127)	
Non-profit	0.039	0.07	.1306				
	(0.014)	(0.009)					

Note: The statistical test that is used is Wilcoxon rank-sum (Mann–Whitney) test for "Age" and proportion test for the other binary variables.

this dimension are optimistic regarding the evolution of the economy in the near future; we label this dimension *optimism*.

4.3 | Who plans to open a business before the Covid-19 crisis?

We first analyze a sample of 854 participants as we exclude participants who are currently entrepreneurs. The sample thus contains participants who are not entrepreneurs: some have a business project (i.e., are "prospective entrepreneurs") and others do not. We compare these two categories of participants to see if they differ in some dimensions. We first focus on their socioeconomic characteristics (Section 4.3.1) and then on the choices they make in the behavioral games (Section 4.3.2).

4.3.1 | Socioeconomic characteristics

Table 6 describes the average values of the socioeconomic characteristics through two-group comparison tests for the non-entrepreneurs with and without a business project. With the exception of their younger age (33 years old versus 39.5 years old), their slightly higher level of education, and their more frequent past entrepreneurial experience, participants with a business project do not really differ from others in terms of socioeconomic characteristics.

4.3.2 | Behavioral characteristics

To investigate the behavioral dimension, we use regression analysis on the choices made in the games described in Section 3. The explanatory variable "Project" captures whether the participant has a business project or not. Our results suggest that there is no significant difference between the participants in any of these dimensions (Table 7).

Result 1. Participants with a business project are younger, slightly more educated and have more frequently a past entrepreneurial experience than the other participants. Yet, they do not really differ in terms of behavioral characteristics.

The results may seem surprising regarding our hypotheses H1 to H3. However, following Hypothesis 4, we now investigate whether environmental characteristics play a role in the personality traits of prospective entrepreneurs.

4.4 | Do all participants with a business project behave similarly?

Table 6 shows that people with a business project are quite different regarding their geographical location, the sector in which they are currently working, and their educational background. We now analyze whether this heterogeneity is correlated with their choices.

Business projects and sectors. We have two pieces of information regarding the sector: the current sector in which participants are working (for-profit sector, public sector, not working, …), and the sector in which they plan to open a business (services, technology, crafts, food, …).

We first explore whether participants with a business project behave differently according to the sector in which they are currently working. In Table A1 (model A), we estimate econometrically whether people who are currently working in the for-profit sector and have a business project behave differently from the other participants (with or without a business project). Results show that they indeed make riskier choices. The coefficient and its level of significance is even higher when controlling for age and sex (Table A1, model B).

We then investigate whether the sector in which participants plan to open a business makes a difference. Our econometric results show that participants who plan to open a project in the business administration sector (accounting, financial services, marketing, …) make riskier choices than the others (see Table A1, model C).[14]

Other dimensions. Our empirical investigation shows that women with a business project cooperate less than the other participants and are also more generous (Table A2, model A).[15] On the contrary, participants with a business project and having a previous entrepreneurial experience cooperate more frequently in the prisoner's dilemma game than the others (Table A2, model B), and have then less selfish behavior. They have also a higher level of trust toward others (i.e., they anticipate more frequently cooperative behavior in the prisoner's dilemma game). Last, regarding the geographical dimension, our econometric results show that participants coming from rural areas and having a business project make more competitive choices and are slightly more generous (Table A4, model C). We then explore participants from urban areas. People with a business project and living in large cities (>500,000 inhabitants) make riskier choices than the other participants (Table A4). This effect becomes even larger when controlling for age and sex of participants (Table A4, model B). We conclude that there seems to be different profiles of people with a business project depending on their area of residence. One possible interpretation of this result is that in rural areas or small towns, developing one's own project may be more a constraint than a choice, as employment opportunities may be lower.

All in all, our results show that behavioral traits are in interaction with the socioeconomic environment: people with an entrepreneurial project are not an homogeneous population and their environment matters. We observe two broad types of prospective entrepreneurs: the selfish and risk lovers ones on one side, and the "naïve" ones who have more cooperative behavior, trust more the others and are more altruistic on the other side. Prospective entrepreneurs who are men, and/or live in large cities and/or come from the for-profit sector belong to the first category, while prospective entrepreneurs with previous entrepreneurial experience or living in rural areas belong to the second type of entrepreneurs. Compared to the previous literature, Andersen et al. (2014), Holm and Opper (2013), and Koudstaal et al. (2016) find no significant differences between entrepreneurs and other people regarding attitudes toward risk. Our study goes one step further by showing that this result is true but not for all types of prospective entrepreneurs. Regarding trust, Holm and Opper (2013)

TABLE 7 People with a business project

	(1) riskyChoices	(2) competitionChoices	(3) defectPD	(4) guessPD	(5) charitydonation
Project	−0.200	−0.229	−0.0182	0.141	−4.441
	(0.197)	(0.209)	(0.107)	(1.930)	(4.487)
Constant	4.895***	5.077***	0.283***	55.18***	58.31***
	(0.0897)	(0.0953)	(0.0489)	(0.869)	(2.099)
Observations	854	854	854	845	854
R-squared	0.001	0.001		0.000	0.001

Note: Robust standard errors in parentheses.
***$p < .01$. **$p < .05$. *$p < .1$.

find that entrepreneurs generally have a higher level of trust toward others. Yet, their study was made with entrepreneurs from the Yangzi delta region in China, that is, a region with a low per capita income relative to a developed economy: to some extent, our results are somewhat close to theirs, as we find that prospective entrepreneurs in rural areas show high level of trust compared to the others.[16]

Result 2. There are different profiles of participants with a business project: Men, urban people or people coming from the for-profit sector are more risk-loving and less altruistic than the other participants. People living in rural areas or having a previous entrepreneurial experience trust more the others, make less selfish choices and are more generous.

4.5 | Who are people postponing or canceling an entrepreneurial project?

Among the 177 participants having an entrepreneurial project in January 2020, 112 claim in May that their project has changed (this could be both because of the Covid-19 pandemic or something else). This change is most of the time a postponement or a cancelation rather than a modification of the content. The effect of the crisis on the intention to open a business was quite hard as early as May 2020: 63,3% of the prospective entrepreneurs decided to postpone or cancel their project. In this section, we focus on these participants and study whether they are different from participants who claim that their project has not changed since the beginning of the year.

4.5.1 | Socioeconomic characteristics

As illustrated in Table 8, people stopping a business project are slightly older than people who continue their project (34.7 years old vs. 29.8 years old). As people get older, they may prefer more secured professional options than entrepreneurship in times of crisis (for their family for instance) and may become less likely to launch a business.

People working in the for-profit sector are also more likely to stop their entrepreneurial project than people who are currently not working: an interpretation is that the outside option to stop their current position in the for-profit sector is higher than if they were in the public sector or unemployed. Starting an entrepreneurial project is then more costly for them, especially in a period of crisis. On the contrary, unemployed people have less to loose and are then relatively more willing to continue their project than to stop. Another interpretation would be that entrepreneurship by unemployed people is more "necessity entrepreneurship," which tends to be counter-cyclical while entrepreneurship by people from the for-profit sector is more "opportunity entrepreneurship"[17] and then more sensitive to the economic context (Fairlie & Fossen, 2020; Thurik et al., 2008). As the start of the Covid-19 crisis was a period of strong uncertainty, negative anticipations could have discouraged people motivated by "opportunity entrepreneurship" more than those motivated by "necessity entrepreneurship."

Quite surprisingly, the decision to continue or to stop a business project is not significantly different on average according to the sectors prospective entrepreneurs target (Table 9), while we could have

TABLE 8 Comparison of participants who stop or continue a business project (two-group proportion test)

	Stop Mean/(SD)	Continue Mean/ (SD)	*p* value		Stop Mean/(SD)	Continue Mean/ (SD)	*p* value
Rural	0.178	0.154	.673	Public	0.33	0.354	.752
	(0.384)	(0.363)			(0.472)	(0.481)	
Small	0.267	0.2	.31	Unemployed	0.232	0.369	.051
	(0.444)	(0.403)			(0.424)	(0.486)	
Medium	0.267	0.338	.32	Noeducation	0.446	0.461	.63
	(0.444)	(0.477)			(0.207)	(0.211)	
Large cities	0.285	0.307	.757	Techeducation	0.107	0.116	.865
	(0.454)	(0.465)			(0.384)	(0.03)	
Women	0.545	0.539	.949	HSeducation	0.116	0.154	.47
	(0.5)	(0.502)			(0.321)	(0.451)	
Age	34.7	29.8	.003	College	0.178	0.18	.92
	(11.3)	(9.34)			(0.384)	(0.391)	
Experience	0.303	0.246	.414	b-education	0.375	0.384	.89
	(0.461)	(0.434)			(0.486)	(0.491)	
For profit	0.375	0.215	.028	Topeducation	0.169	0.123	.406
	(0.486)	(0.414)			(0.377)	(0.331)	
Non-profit	0.027	0.062	.253				
	(0.162)	(0.242)					

Note: The statistical test that is used is Wilcoxon rank-sum (Mann–Whitney) test for "Age" and proportion test for the other binary variables.

TABLE 9 Comparison of the decision to stop among targeted sectors (two-group proportion test)

	Business Mean/(SD)	Other sectors than business Mean/(SD)	*p* value	Internet Mean/ (SD)	Other sectors than internet Mean/(SD)	*p* value
project_stop	0.5 (0.52)	0.644 (0.48)	.283	0.6 (0.498)	0.64 (0.48)	.683
	Food Mean/(SD)	**Other sectors than food Mean/(SD)**	***p* value**	**Craft**	**Other sectors than craft Mean/(SD)**	***p* value**
project_stop	0.72 (0.461)	0.622 (0.48)	.683	0.647 (0.485)	0.629 (0.48)	.847
	Service Mean/(SD)	**Other sectors than service Mean/ (SD)**	***p* value**			
project_stop	0.643 (0.482)	0.625 (0.486)	.798			

TABLE 10 Decisions to stop and behavioral characteristics

	(1) riskyChoices	(2) competitionChoices	(3) defectPD	(4) guessPD	(5) charitydonation
Model A: Participants who stop a business project among those who have a project					
Project Stop	−0.142	0.0750	−0.368*	−7.791**	−14.88*
	(0.351)	(0.389)	(0.202)	(3.465)	(8.542)
N	177	177	177	177	177
Model B: Participants who stop because of Covid among those who have a project					
Stop Covid	0.0976	0.0147	−0.483**	−5.881*	−14.34*
	(0.348)	(0.373)	(0.195)	(3.428)	(7.996)
N	177	177	177	177	177

Note: Linear regressions except for *Defect defection* in the prisonner's Dilemma (probit). All models include a constant term. Robust standard errors in parentheses.
***$p < .01$. **$p < .05$. *$p < 0.1$.

expected more cancelations in some sectors (as those linked to food: restaurants, coffee houses, …).

To summarize, the decision to stop an entrepreneurial project seems quite "rational": when the cost to launch a business is high (because people are older or have already a professional activity in the for-profit sector), people are more likely to stop. People who continue their entrepreneurial project in time of crisis have less to loose: they are younger and more often unemployed. The other dimensions (gender, living areas, education, and experience) do not differ significantly among participants who stop or continue their business project. Our Hypothesis 4 is then not confirmed: while the environment plays a significant role to distinguish the different types of prospective entrepreneurs (as described in Section 3), it is not so powerful to explain the decision to stop a business.

Result 3. People who stop their business project at the start of the pandemic are slightly older than those who continue and work more frequently in the for-profit sector.

4.5.2 | Behavioral characteristics

We now investigate whether participants who stop a business project are different from those who continue regarding behavioral characteristics. We do not find any statistical difference between these two groups on risk-taking, confirming our Hypothesis 1. Yet, we find that participants who cancel or postpone their project are slightly more cooperative in the prisoner's dilemma game than the others (Table 10, model A). They tend to trust other people more and are less generous. The significance of the effects on cooperation in the prisoner's dilemma improves from 10% to 5% level when focusing on people who stop a business project because of the Covid crisis (Table 10, model B). We then observe less "selfish strategy" among people stopping a business project who prefer to make more "collective choices" (and anticipate that the others will also choose optimal collective choices). This confirms our hypothesis 3 (on selfishness): as assumed by the literature on talent allocation (Acemoglu, 1995; Baumol, 1990; Weitzel et al., 2010), entrepreneurially talented people (who are here the prospective entrepreneurs continuing their project through the crisis) maximize their own individual interest, even at the expense of the others.

We also observe that people who stop their project are less altruistic (than those who continue) while we would have expected the reverse following hypothesis 3 and the previous literature mentioned above. However, two points lead us to mitigate this interpretation. First, the result whereby people who continue their business project are more generous (or pro-social) than the others is only significant at 10% level (see Table 10). Second, in our experiment, the weaker generosity level of people stopping a business could be interpreted as a lower capacity to be altruistic as they may anticipate financial difficulties with the abandonment of the entrepreneurial project.

TABLE 11 People who stop a business projects and optimism

	(1) impactEconomy	(2) accessFinanceEasy	(3) consumptionIncrease	(4) findingJobEasy	(5) taxesDecrease	(6) Optimism
Project_stop	1.095***	−0.764*	−0.835***	−0.507*	−0.872**	−0.882***
	(0.337)	(0.423)	(0.285)	(0.286)	(0.343)	(0.210)
Constant	6.923***	3.969***	4.692***	2.954***	3.354***	0.319*
	(0.274)	(0.331)	(0.198)	(0.228)	(0.286)	(0.169)
Observations	177	177	177	177	177	177
R-squared	0.059	0.018	0.040	0.018	0.038	0.093

Note: Robust standard errors in parentheses.
***$p < .01$. **$p < .05$. *$p < .1$.

At first sight, prisoner's dilemma and charity games seem to show different pictures: entrepreneurs who continue their project at the beginning of the Covid-19 crisis are both self-oriented in strategic interactions and more generous in donation. This can yet be explained: the prisoner's dilemma is a strategic game where the participant has to anticipate the other player's strategy. This is not the same in the charity game that is a pure donation. Differences can also be explained because participants do not face the same recipients: they are unidentified players in the prisoner's dilemma while they are non-players and needed people in the charity game. Last, in charity donation, the results could be interpreted as a warm-glow effect: the charity game tests both altruism and the feeling of well-being caused by this altruistic action. This can reconcile our result with what is observed in the prisoner's dilemma. Indeed, according to the original warm-glow model developed by Andreoni (1989, 1990), people experience a sense of joy and satisfaction for "doing their part" to help others. This satisfaction - or "warm glow"—represents the selfish pleasure derived from "doing good", regardless of the actual impact of one's generosity. Self-interest can then be present.

Last, people who stop their business project at an early stage of the crisis are more pessimistic about the future economic environment than the others (Table 11).[18] They then have a higher level of interpersonal trust but a lower level of trust toward the market or the ability of institutions to come up with the economic crisis. The pessimism about the future economic environment is also observable for people stopping an advanced project (Table A3, model A) and people stopping specifically because of the Covid-19 crisis (Table A3, model B).

Result 4. People who rapidly stop their business project have a higher taste for cooperation and are more pessimistic about the future economic environment.

5 | CONCLUSION

Our study analyzes entrepreneurship and the early effects of the Covid-19 crisis on the decision to continue a business project and embark on an entrepreneurial adventure. We focus on small business projects in the United Kingdom as they represent the backbone of business creations. In addition, small firms were rapidly hurt by this crisis which also impacted the intention to launch small businesses. Broadly speaking, we find that people who have a business project before the Covid-19 crisis are not so different from those who do not regarding socioeconomic and behavioral characteristics. Yet, we observe different types of prospective entrepreneurs. Men, urban people or people coming from the for-profit sector are more risk-lover and less altruistic than the other participants. On the contrary, people living in rural areas or having a previous entrepreneurial experience trust more the others, make more cooperative choices and are more generous. Then, our results illustrate that the profiles of entrepreneurs differ according to their environment.

The Covid-19 crisis had a sharp screening effect on the intention to launch a business: 63% of the prospective entrepreneurs in our experiment decided to postpone or cancel their project in May 2020, that is, in the first months of the crisis. What distinguishes prospective entrepreneurs who continue their project in spite of the looming crisis to those who stop it is both their lower opportunity cost to continue the project, and their degree of self-interest. They think that each person prefers to defend its own interest than the collective surplus and behave accordingly. While classical entrepreneurial dimension (ability to make risky choices and taste for competition) does not allow to screen resilience in entrepreneurship in the first months of the crisis, self-interest plays a significant role in this screening. Last, the characteristics of the business project (as the targeted sector) or the environment are not determinant in the decision to stop an entrepreneurial project at this time.

Our results call for some recommendations and further developments: First, it would be worth extending our analysis to a longer time horizon: we focus on the first months of the crisis to understand the impact of a looming crisis on business intent. A complementary analysis could see if the profiles of entrepreneurs who persist are different over time, as the crisis evolves.[19] This would allow exploring another aspect of "entrepreneurial resilience," namely, entrepreneurial success in the years following a crisis. Similarly, beyond personality traits, some other factors have been identified as contributing to entrepreneurial resilience such as networking, social, and cultural norms.

Complementary analyses could then also explore interactions between these factors. Our results nevertheless allow us to draw some policy recommendations: To catch up the lack in small business creations, some public policies may be needed in times of economic recovery at an early stage of a crisis but do not require to target prospective entrepreneurs by sector. What would be more relevant is to target those with the most insecure financial situation. Alternatively, one could also think that the early stage of the crisis acted as a screening effect: the most self-oriented prospective entrepreneurs persist in their project while the others decided to stop. According to the literature on talent allocation, entrepreneurially talented people are self-interested, so that the Covid-19 crisis could have selected prospective entrepreneurs who are the most likely to succeed in their project. This then calls for further work to analyze whether persisting prospective entrepreneurs in times of crisis are more successful than those in times of economic growth.

CONFLICT OF INTEREST

No potential conflict of interest was reported by the authors.

DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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ENDNOTES

[1] As noted by Hedner et al. (2011), resilience is a broad notion. Following Masten (2009), resilience has been referred to as "the positive ability of a system or company to adapt itself to the consequences of a catastrophic failure caused by power outage, a fire, a bomb, or similar event." The resilience concept has then been extended to business continuity initiatives (Sheffi, 2005). We follow this approach by defining here entrepreneurial resilience as the decision to continue a business project when a crisis is starting.

[2] Both self-employed and not.

[3] Self-employed people are those who define themselves as working for themselves, rather than receiving a wage or salary from an employer. Source: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/coronavirusandselfemploymentintheuk/2020-04-24

[4] Added to 1.155 million micro-business (one to nine employees), it means that 95% of businesses in the United Kingdom employ 10 people or fewer (Source: https://www.merchantsavvy.co.uk/uk-sme-data-stats-charts/) In addition, companies with no employees (freelancers, contractors, self-employed, etc.) have increased at a faster rate than that of other company sizes since 2000 in the United Kingdom (+89% between 2000 and 2019 compared to +26% for companies with one to nine employees, +30% for companies with 10–49 employees, +33% for 50–249 employees and +7% for companies with more than 250 employees).

[5] Source: https://www.oecd.org/cfe/smes/

[6] Source: https://www.oecd.org/cfe/smes/oecdrecommendationonsmeandentrepreneurshippolicy/

[7] Source: https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpfirstquarterlyestimateuk/apriltojune2020

[8] Previous studies on prospective entrepreneurship mainly rely on students (Autio et al., 2018; Westhead & Solesvik, 2016) while our sample is built on people from different age claiming their willingness to start a business in the next few months.

[9] However, based on a survey of expert researchers, Rauch and Frese (2007) do not consider individuals' attitudes toward competition as one of the personality characteristics of entrepreneurs. In spite of their result, we maintain an hypothesis closer to the former literature.

[10] Participants only know that the competitor is chosen randomly from a representative sample of the UK population.

[11] As mentioned in Section 3, to avoid cross-contamination, only one game is randomly drawn at the end of the experience and each participant is paid accordingly (for the variable part of the fee).

[12] Participants were asked the following question: "How would you assess the development status of your project at the date of January 2020 on a 0-to-10 scale?" (0: *it was just and idea*; and 10: *Everything was ready to start*). We define "advanced projects" as all participants whose answer to this question was strictly greater than 0.

[13] There is a positive correlation coefficient between the "Risk aversion" game and the "Willingness to compete" game ($\rho = .347$) in our experiment. The positive correlation suggests that the two games might reflect some inherent preferences for uncertainty. However, the correlation is limited such that we can be confident that the two concepts do not overlap. Risk-aversion refers to the preference for pure randomness, while the taste for competition reflects the propensity to enter competition with (unknown) opponents.

[14] Correlation coefficient between "forprofit" and "business" is .268. In addition, if we focus only on the sample of participants having an entrepreneurial project, further investigations find the same effect: people planning to work in the business sector make riskier choices than the participants with entrepreneurial project in other sectors.

[15] Additional econometric regressions also show that women with an advanced business project make fewer risky choices but trust more the others than the other participants with a business project.

[16] In line with Rauch and Frese (2007), we do not find that competitive behavior is a specific trait of prospective entrepreneurs.

[17] Recall that the empirical literature provides mixed results about the relationship between unemployment and entrepreneurship. While some papers provide for a positive correlation (Koellinger & Thurik, 2012), some others describe a negative relationship; Congregado et al. (2012), Fritsch et al. (2015), Cowling and Bygrave (2003), and Bergmann and Sternberg (2007) show undetermined effects. Last, Tervo (2006) and Svaleryd (2015) show that unemployment may push to self-employment some particular types of people (with social or human capital endowments). As stated by Parker (2009), one reason for these pieces of mixed evidence could come from the distinction between «Opportunity entrepreneurship» (i.e., creating businesses when others create business) and «necessity entrepreneurship» (i.e., entrepreneurial activity because there is no better alternative to work). The former would be pro-cyclical while the other would be counter-cyclical. Using this distinction, Fairlie and Fossen (2020) give empirical support to these different effects of the economic cycles on business creations.

[18] Note that we are not able to establish a causal effect here. Pessimism may explain the end of a business project, as well as the end of such a project may explain pessimism about the future economic environment.

[19] Kwak and Lee (2017) have explored another related question about the survival of firms created during before or after recessions. They find that the exit probability of entrepreneurs who enter during an economic recession is approximately 2.75 times higher than that of entrepreneurs who enter before recession.

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APPENDIX A: TABLES

TABLE A1 Business projects and sectors

	(1) Risky choices	(2) Competitive choices	(3) Defect PD	(4) Guess defection	(5) Charity donation
Model A: Participants in the for-profit sector and with a business project.					
Forprofit	−0.0790	0.209	−0.0154	1.305	1.377
	(0.190)	(0.199)	(0.105)	(1.875)	(4.519)
Project	−0.515**	−0.184	−0.0263	0.223	−5.854
	(0.237)	(0.256)	(0.130)	(2.376)	(5.301)
Project*ForProfit	0.995**	−0.142	0.0254	−0.253	4.463
	(0.417)	(0.445)	(0.231)	(4.072)	(9.905)
N	854	854	854	845	854
Model B: Participants in the for-profit sector and with a business project, with controls.					
Forprofit	−0.149	0.149	0.0153	1.182	4.263
	(0.193)	(0.202)	(0.107)	(1.908)	(4.607)
Project	−0.654***	−0.159	−0.0615	0.491	−3.741
	(0.242)	(0.260)	(0.133)	(2.426)	(5.386)
Project*ForProfit	1.102***	-0.155	0.0317	−0.0291	3.396
	(0.423)	(0.449)	(0.233)	(4.115)	(9.829)
Age	−0.0118**	−0.000598	−0.00242	−0.00268	0.368***
	(0.00523)	(0.00570)	(0.00302)	(0.0524)	(0.126)
Women	−0.112	−0.332*	0.185**	−0.446	6.606*
	(0.161)	(0.173)	(0.0887)	(1.561)	(3.759)
N	849	849	849	840	849
Model C: Participants with a project in the Business Administration.					
Project	−0.383*	−0.216	−0.0503	−0.375	−4.172
	(0.207)	(0.221)	(0.113)	(2.070)	(4.647)
Project*BusinessAdm	1.236**	−0.366	0.125	5.191	22.68
	(0.620)	(0.650)	(0.356)	(5.177)	(16.62)
Age	−0.0110**	−0.00117	−0.00246	−0.00825	0.357***
	(0.00521)	(0.00572)	(0.00299)	(0.0519)	(0.125)
Constant	5.330***	5.125***	0.381***	55.41***	44.36***
	(0.224)	(0.240)	(0.128)	(2.269)	(5.320)
N	851	851	851	842	851

Note: Linear regressions except for *Defect defection* in the prisonner's Dilemma (probit). All models include a constant term. Robust standard errors in parentheses.

***$p < .01$. **$p < .05$. *$p < .1$.

TABLE A2 Gender and experience

	(1) Risky choices	(2) Competitive choices	(3) Defect PD	(4) Guess defection	(5) Charity donation
Model A: Women having a business project					
Project	−0.0356	−0.156	−0.266*	−0.00840	−17.07***
	(0.285)	(0.280)	(0.158)	(2.721)	(6.037)
Women	−0.0518	−0.333*	0.0898	−0.647	1.084
	(0.180)	(0.190)	(0.0981)	(1.744)	(4.219)
Project*Women	−0.330	−0.0721	0.451**	1.029	22.60***
	(0.397)	(0.414)	(0.218)	(3.838)	(8.744)
N	852	852	852	843	852
Model B: People with a projet and having experience					
Experience	−0.0776	−0.0599	0.156	3.042	3.164
	(0.228)	(0.254)	(0.133)	(2.352)	(6.111)
Project	−0.341	−0.102	0.116	3.220	−8.546*
	(0.239)	(0.241)	(0.126)	(2.194)	(4.941)
Project*experience	0.531	−0.424	−0.530**	−12.15***	13.22
	(0.422)	(0.492)	(0.250)	(4.511)	(11.21)
N	854	854	854	845	854

Note: Robust standard errors in parentheses.
***$p < .01$. **$p < .05$. *$p < .1$.

TABLE A3 Decision to stop an entrepreneurial project and optimism

	(1) impactEconomy	(2) accessFinanceEasy	(3) consumptionIncrease	(4) findingJobEasy	(5) taxesDecrease	(6) optimism
Model A: Participants who stop an advanced business project and optimism						
Project_av	−0.644	1.286**	3.636***	0.472	0.969*	0.633**
	(0.471)	(0.592)	(0.417)	(0.410)	(0.527)	(0.314)
Project_stop_av	0.870**	−0.697	−4.214***	−0.572*	−1.301***	−0.912***
	(0.391)	(0.512)	(0.196)	(0.334)	(0.443)	(0.255)
N	177	177	177	177	177	177
Model B: Participants who stop because of the Covid Crisis						
Covid	0.817**	−0.606	−0.586**	−0.245	−0.547*	−0.594***
	(0.324)	(0.415)	(0.296)	(0.278)	(0.325)	(0.208)
N	177	177	177	177	177	177

Note: Linear regressions except for *Defect defection* in the prisonner's Dilemma (probit). All models include a constant term. Robust standard errors in parentheses.
***$p < .01$. **$p < .05$. *$p < .1$.

TABLE A4 Business projects and geography

	(1) Risky choices	(2) Competitive choices	(3) Defect PD	(4) Guess defection	(5) Charity donation
Model A: Participants with a business projects and living in cities >500,000 inhabitants.					
Largecities	−0.0591	0.112	0.133	4.123**	−1.031
	(0.206)	(0.221)	(0.116)	(2.059)	(5.045)
Project	−0.485**	−0.242	0.0218	0.896	−0.949
	(0.237)	(0.259)	(0.127)	(2.318)	(5.330)
Project*Largecities	0.981**	0.0221	−0.164	−3.373	−11.68
	(0.416)	(0.436)	(0.239)	(4.213)	(9.864)
N	854	854	854	845	854
Model B: Participants with a business projects and living in cities >500,000 inhabitants - controls.					
LargeCities	−0.135	0.0939	0.126	4.007*	1.660
	(0.210)	(0.225)	(0.118)	(2.103)	(5.140)
Project	−0.612**	−0.218	−0.0146	1.386	1.038
	(0.243)	(0.264)	(0.129)	(2.362)	(5.392)
Project*Largecities	1.078***	0.0109	−0.141	−3.586	−12.94
	(0.417)	(0.437)	(0.239)	(4.224)	(9.797)
Age	−0.0108**	−0.000662	−0.00195	0.0108	0.359***
	(0.00529)	(0.00579)	(0.00305)	(0.0527)	(0.126)
Women	−0.134	−0.346**	0.187**	−0.476	5.974
	(0.160)	(0.170)	(0.0877)	(1.556)	(3.705)
N	849	849	849	840	849
Model C: Rural prospective entrepreneurs versus other prospective entrepreneurs.					
Rural	0.0131	1.060**	−0.129	5.824	19.04*
	(0.505)	(0.518)	(0.272)	(5.081)	(11.11)
Women	−0.408	−0.399	0.550***	0.224	23.83***
	(0.358)	(0.366)	(0.199)	(3.455)	(7.701)
Age	−0.00787	−0.0275*	−0.0263***	−0.0636	0.279
	(0.0158)	(0.0160)	(0.00924)	(0.160)	(0.345)
N	174	174	174	174	174

Note: Linear regressions except for *Defect defection* in the prisonner's Dilemma (probit). All models include a constant term. Robust standard errors in parentheses.

***$p < .01$. **$p < .05$. *$p < .1$.